

# ***General Dynamics Armament Systems***



## ***Demilitarization of the World's Discarded and Unused Conventional Ammunition***

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April 10, 2001

# Agenda



- GDAS Demil history
- Conventional Ammunition Demil Contract (CADC)
- CADC Task Order 2 Assets
- Ammunition production issues
- Commercial demil R3 benefits vs OB/OD
- Reuse initiative
- Current B5A stockpile
- Reuse opportunities
- Reuse issues
- Summary

# GDAS Demil History

**22,638 Tons**



Small Caliber (SA):

2,737,118 Rounds

1,308 Tons

Explosive D (HD):

14,811 Rounds

1,112 Tons

ICMs (HI):

202,806 Rounds

11,074 Tons

HE Cartridges (HC):

156,453 Rounds

1,757 Tons



Bombs (HB):

4,054 Rounds

1,507 Tons

Fuzes (SF):

321,693 Rounds

1,283 Tons

Pyrotechnics (FP):

136,607 Rounds

1,045 Tons

Propelling Charges (PC):

165,918 Rounds

3,652 Tons

Bulk Propellant (PB):

1,204,140 Pounds

602 Tons

# CADC Summary



- GDAS Prime Systems Contractor
  - 5 Year OSC ID/IQ contract - 5/99
  - 5 operating demilitarization subcontractors
    - Focused on R3 processes - 97% resource recovery
    - Greater than 50% Small Business content
  - Facilitized \$8.5 M on schedule
  - Completed 8 of 9 families on schedule
  - Environmental, safety & security programs in place
  - All Teammates ISO-9000 Compliant

**Demil team with a safe, proven, and effective 97% R3 program**

# GDAS Demil

## Processes Available



\$3.35

\$1.21

\$3.27

\$.66

\$8.5 M  
facilitized  
under the  
CADC  
Contract

Industry is facilitized, underutilized, and performing R3 today !

# GDAS Demil

## Material Disposition Summary



GDAS achieved an average of 97% commercial R3

# CADC Task Order 1

## Energetic Material Commercial Sales



6.1 M pounds of energetics sold to commercial outlets

# GD Material Services

Blasting Gel User





# GDAS CADC TO2 Assets

## 4,606 Tons



### Small Caliber (SA):

1,353,701 Rounds

647 Tons

### Explosive D (HD):

3,500 Rounds

276 Tons

### ICMs (HI):

14,000 Rounds

765 Tons

### HE Cartridges (HC):

107,800 Rounds

484 Tons



### Bombs (HB):

1,200 Rounds

488 Tons

### Fuzes (SF):

177,100 Rounds

360 Tons

### Pyrotechnics (FP):

41,100 Rounds

279 Tons

### Propelling Charges (PC):

48,000 Rounds

1,056 Tons

### Bulk Propellant (PB):

360,000 Pounds

180 Tons

# Ammunition Production Issues



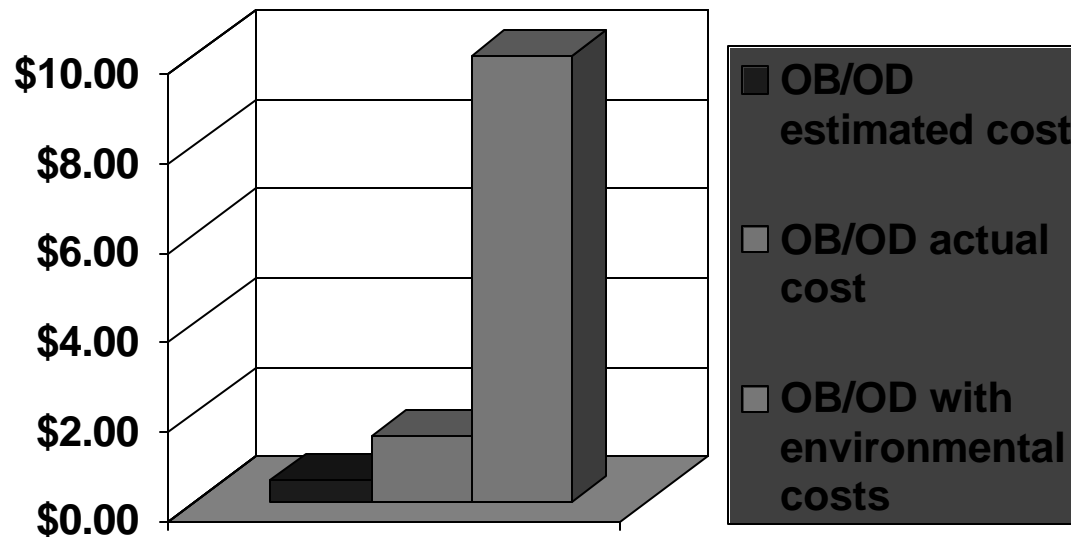
- Lower production volumes have impacted processing
  - Higher ammunition component unit costs
  - Reduction in available component and material suppliers
    - consolidation, loss of skills, or lack of work
- Items not currently in production or tooled
  - 105 mm ammo
  - M42 / M46 / M77 grenade bodies
  - TNT / CompB

**Need to develop alternate sources for materials and components**

# Cost of OB/OD for Demil



Cost of OB/OD per lb. munitions demilled



Environmental cost approximately 9X OB/OD cost - FY96 JOCG Study

# Recovery & Reuse vs OB/OD



- OB/OD issues
  - Significant environmental bill for OB/OD clean up
  - Undefined amount of UXO
  - Significant legal actions - negative public health impacts
    - Negative impact on DoD budgets
  - Eliminates component and material availability for reuse
- Recovery & Reuse benefits
  - Material available for Reuse from demil \$'s spent
  - Potential for lower cost components and materials
  - Environmentally friendly - reduce long term liabilities

**Reuse lowers Ammunition Life Cycle costs**

# Reuse Initiative



- Presidential Executive Order 13101 - 9/14/98
  - USD letter (J.S. Gansler), dated 12/20/00, calls for “The recycling and reuse of materials from demilitarization into our new munitions will contribute to pollution prevention, while offering the Department cost savings measures...”

**“...view the munitions demilitarization stockpile as an asset instead of a liability...” - J.S. Gansler**

# Current B5A Stockpile



Total B5A Stockpile  
about 500,000 short  
tons and growing

# Reuse



- Targeted Reuse
  - Training rounds
  - Inert rounds
  - New production
- Reuse Opportunities from CADDC
  - TNT (Tritonal)
  - Bomb Lugs
  - M483 155mm ICM components
  - M42 / M46 submunitions
  - Magnesium

**“...reuse from demilitarization ... will contribute to pollution prevention, while offering ... cost saving measures” - J.S. Gansler**

# Planned Munition Programs



Demil material exists to support planned munition programs



# Reuse Issues



- PEO's / PM's / IPT's need to help prioritize demil asset lists based on production requirements
- Component inspection / certification
- Energetics re-qualification
- Demil contract modifications required

**DoD needs to drive Reuse per J.S. Gansler memo**

# Summary



- OB/OD operations provide no opportunity for reuse
- Reuse supports minimizing Ammunition Life Cycle costs
- Recovery provides alternative source of ammunition components and materials for Reuse
- Reuse supports Executive Order 13101
- Industry facilitized, underutilized, and performing resource recovery

**The time for Military REUSE is here!!**